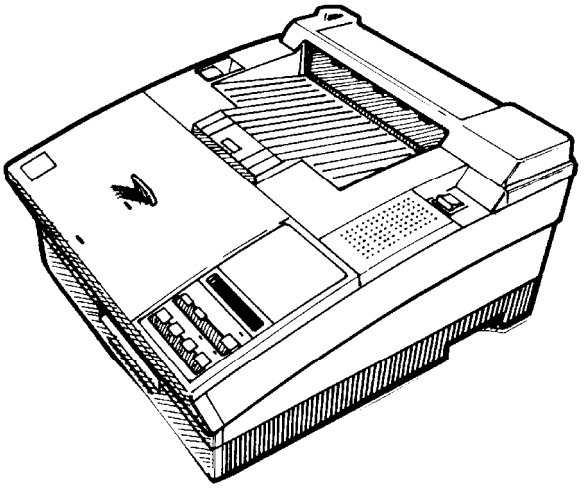


Printer Specifications

Printing

Printing method	Laser beam scanning and dry electrophotographic process
Resolution:	600 x 600 dpi or 300 x 300 dpi, switchable
Printing speed:	Up to 6 pages per minute (depending on the font and quantity of data)
First print:	Less than 20 seconds, face down or face up
Warm-up time:	35 seconds or less at normal temperature
Internal emulations:	☐ HP® LaserJet™4 emulation ☐ ESC/ P 2™24-pin printer-LQ-570/ 1070 ☐ ESC/ P® 9-pin printer-FX-870/ 1170 ☐ EPSON GL/ 2
Cartridge slot:	1 slot for font cartridges
Resident fonts:	45

Paper specifications

Types:
- ☐ Plain paper
- ☐ Special paper
- ☐ Labels
- ☐ Envelopes
- ☐ Transparencies
- ☐ Colored paper
- ☐ Card stock

Since the quality of any particular brand or type of paper may be changed by the manufacturer at any time, EPSON cannot guarantee the use of any particular brand or type of paper. Always test samples of paper stock before purchasing large quantities.

Paper weight: Plain paper: 60-90 g/ m^2, 16-24 lb
Card stock: 90-157 g/ m^2, 24-42 lb (single-sheet feed only)

Paper size:

Paper:

Type	*Size*
Letter	8.5 x 11 inches
Legal	8.5 x 14 inches
Half-letter	5.5 x 8.5 inches
Executive	7.25 x 10.5 inches
Government Legal	8.5 x 13 inches
Government Letter	8.5 x 10.5 inches
A4	210 x 297 mm
A5	148 x 210 mm
B5	182 x 257 mm
F4	210 x 330 mm

Envelopes:

Type	*Size*
Monarch	3⅞ x 7½ inches
Commercial-10	4⅛ x 9½ inches
DL	110 x 220 mm
C5	162 x 229 mm
International B5	176 x 250 mm

Printable area:

LJ4 emulation: 100 dots from page edge (at 600 dpi)

ESC/ P 2, FX emulations: 150 dots from paper edge (at 600 dpi)

Paper feed alignment and direction: Center alignment for all sizes

Paper feed: Automatic or manual feed

Input paper supply (75 g/ m^2 or 20 lb paper): 150 sheets (for standard built-in paper tray)
250 sheets (for optional lower paper cassette unit)
5-10 envelopes, depending on thickness

Paper eject: Face down or face up (optional)

Paper eject capacity (75 g/ m^2 or 20 lb paper): Face down, 100 sheets
Face up, 20 sheets with optional face-up output tray

Consumable products

Imaging cartridge: (S051016)

Storage temperature:	0° to 35°C (32° to 95°F)
Shelf life:	18 months after production
Storage humidity:	30 to 85% RH
Life:	Typical imaging cartridge life is up to 6000 pages under the following conditions: Letter- or A4-size paper, continuous printing, and 5% print ratio

Note:
The number of pages that you cm print with an imaging cartridge varies depending on the type ofprinting you do. If you print a few pages at a time or print dense text exceeding 5% print ratio, your cartridge may print fewer pages.

Mechanical

Dimensions and weight:	Height	***226*** mm (8.9 inches)
	Width	368 mm (14.5 inches)
	Depth	456 mm (18.0 inches)
	Weight	Approx. 10 kg (22 lb) including the imaging cartridge
Durability:	5 years or 180,000 sheets, whichever comes first	

Electrical

Rated voltage:	***90*** to 132 VAC
Rated frequency:	50 to 60 Hz ± 3 Hz
Power consumption:	Less than 500 W (powers down to less than 30 W after 15 minutes of inactivity)
Rated current:	***5.0*** A ± 10%

Controller hardware

CPU:	MB86930,17.6 MHz RISC
RAM:	2MB expandable to 64MB

Environmental

Temperature:	Operation:	10° to 35° C (50° to 95° F)
	Storage:	0° to 35° C (32° to 95° F)
Humidity:	Operation:	15 to 85% RH
	Storage:	***30*** to ***85% RH***
Altitude:	2500 meters (8200 feet) maximum	

Options

Lowerpaper cassette unit (C812301)

The optional lower paper cassette unit allows you to feed up to an additional 250 sheets of letter-size paper into the printer.

Face-up output tray (C812311)

To feed single sheets of paper types such as envelopes, transparencies, labels, or heavy paper, use the face-up output tray. The face-up feed method reduces curling of such paper types and the tray catches the paper at the paper ejection area at the top back of the printer. Use the face-up output tray for print jobs of 20 pages or less and when you want paper delivered face up.

Single In-Line Memory Modules (SIMMs)

You can install one or two SIMMs that have a capacity of 1,2,4,8, 16, or 32MB. This allows you to increase memory capacity up to 64MB.

EPSON Script™ for PC (C832091)

The EPSONScript for PC option allows you to use your printer to print documents formatted for PostScript® Level 1 and Level 2.

EPSON Talk™ for ActionLaser 1600 (MACLP3)

The EPSON Talk for ActionLaser 1600 kit contains everything you need to connect your printer to an Apple® Macintosh® It includes software, a LocalTalk® interface module, and a PostScript Level 2-compatible module.

EPSON Type B Interface boards

The printer has an additional interface slot that allows you to install one of a variety of optional interfaces.

To add a parallel or serial interface to your printer, use one of the following:

C823071/C823081	32KB serial interface
C823101	32KB parallel interface

To add a direct connection to an IBM@ mini or mainframe computer, use one of the following:

C823151	Twinax interface board
C823141	Coax interface board

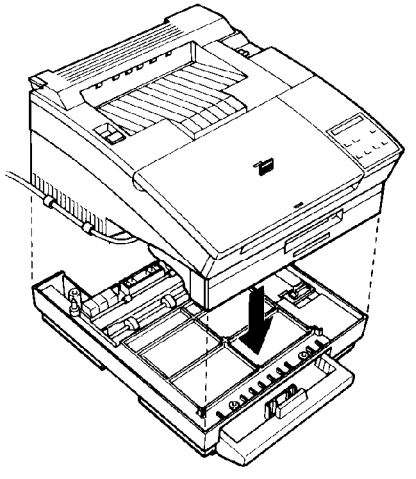
To add a direct connection to a Novell@ network, use the following:

C823241	Ethernet board

Installing the Lower Paper Cassette Unit

1. Turn off the printer. Remove any interface cables and unplug the printer's power cord from the electrical outlet and from the printer.
2. Move the printer to one side. Then set the lower cassette unit where your printer normally rests, keeping the paper cassette facing you.

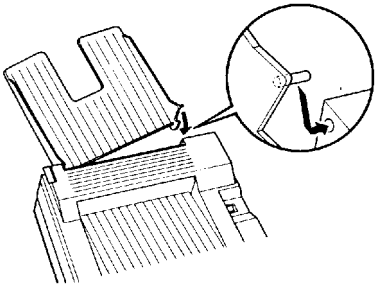
   Note:
   When lowering theprinter, be sure the interface cable is not pinched between theprinter and the lower paper cassette unit.
3. Lift the printer and align it over the cassette unit using the two alignment pins on the lower cassette unit as guides. Lower the printer so that the pins tit securely into the holes on the bottom of the printer as shown below.



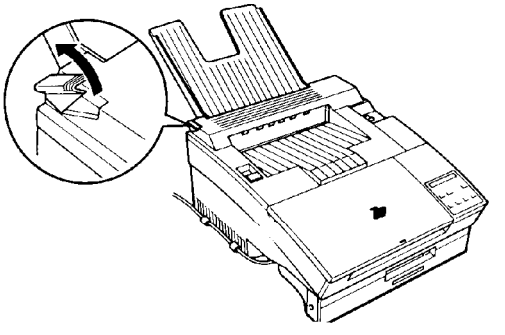
   Note:
   Theprinter is heavy, so you may need to have someone help you lift it.
4. Reconnect the power cord and the interface cable or cables you removed and plug the power cord into an electrical outlet.
5. Turn on the printer.

Installing the Face-up Output Tray

1. Hold the output tray tilted at a slight angle away from you. Then insert it into the back of the printer by placing the pins on the bottom side corners of the tray into the holes on each side of the paper ejection slot one at a time as shown below.



2. Set the paper path selector on the top left of the printer to the face-up position as shown below.



When you want printed pages to feed face down on top of the printer, reset the paper path selector to the face-down position.

Adding Memory

If you are having difficulty printing complex, graphics-intensive pages or if you regularly use downloaded fonts, you may want to install additional memory. Your printer's controller board comes with 2MB RAM installed. To add memory, you need to install one or two SIMMs on the controller board. You can thus increase the printer's memory until it totals 64MB, including the resident memory.

You can purchase SIMMs from various vendors. Be sure the SIMMs you purchase meet the following requirements:

- ☐ 72-pin type
- ☐ Capacity of 1,2,4,8, 16, or 32MB
- ☐ Access speed 70ns or less
- ☐ Dimensions within 108 mm (4.25 inches) x 36 mm (1.4 inches), with a diameter of 10 mm (0.4 inches)

SIMMs are installed on the controller board so you first need to remove the controller board. To do so, you need a cross-head screwdriver.

◆ ***Warning:***
High voltages arepresent inside theprinter when the power is on. Do not attempt to remove the controller board unless the printer is turned off and the power cord is unplugged. Also, try not to touch the contacts on the board because many of the components can be damaged by the static electricity in your body.

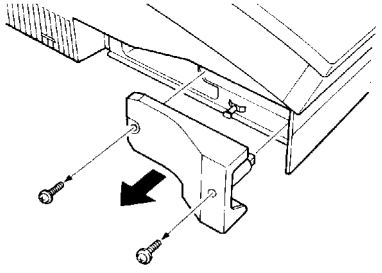
Removing the controller board

1 Turn off the printer and unplug the power cable from the electrical outlet.

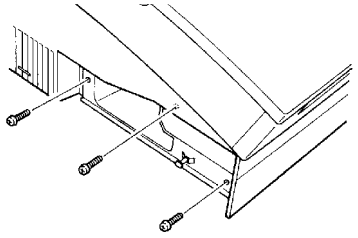
2 Remove the optional font cartridge or lower paper cassette unit, if installed.

3 Disconnect all interface cables from the interface connectors

4 Turn the printer so that its left side faces you. Use a cross-head screwdriver to remove the two screws securing the interface board cover. Then pull off the cover. Keep the screws handy so that you can use them later.

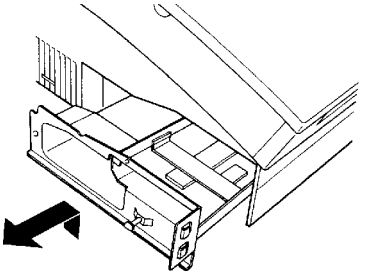


5 Remove the three silver screws that secure the metal bracket on the left side of the printer. Keep the screws handy so that you can use them to reinstall the controller board.

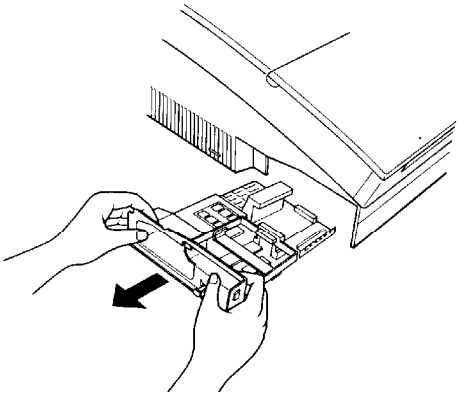


♍ ***Caution:***
Beforeyou remove the controller board, make sure that you have removed any optional cartridges. Otherwise, you may damage them.

6. Pull the tab on the bottom of the bracket to release the controller board.



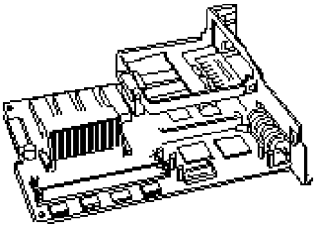
7. Grasp the board with both hands and pull it straight out of its slot.



8. Place the controller board on a clean, flat surface with the bracket (connector) facing to your right.

Installing the SIMM

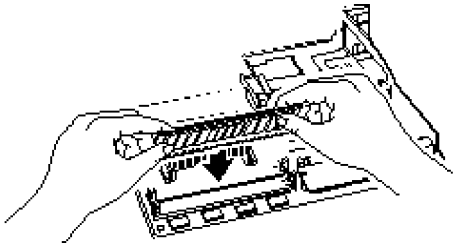
The two memory module slots are located at the left of the board when the board is facing you as shown below.



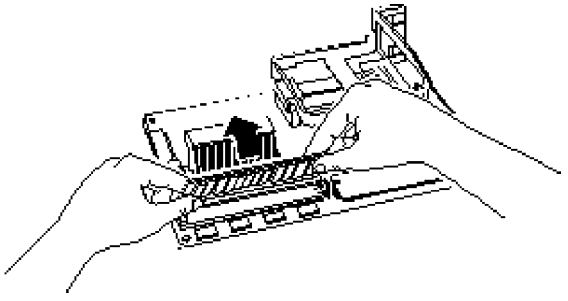
If you are installing one SIMM, use the back slot. If you are installing two SIMMs, use the back slot for the first SIMM, and the front slot for the second.

To install a SIMM:

1. Hold the SIMM as shown below and insert it into the slot at an angle as shown below. Make sure the pin number of both the slot and the SIMM matches, showing 1 or 72.



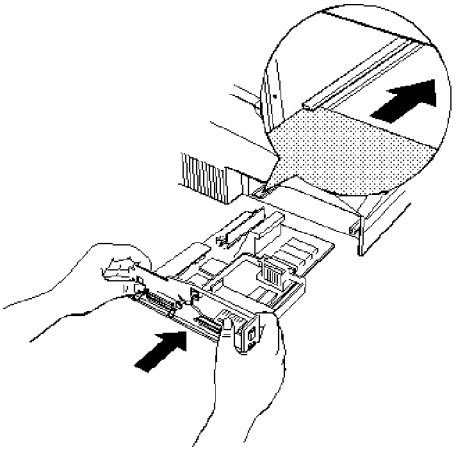
2. Press the SIMM in firmly, in the direction shown in the illustration, until it snaps into the notch of the connector. Do not apply too much force.



3. Reinstall the controller board as shown in the next section.

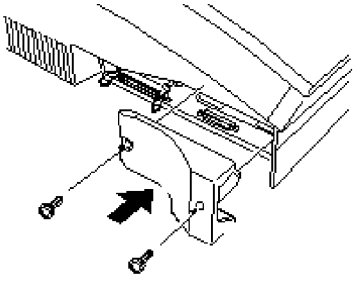
Reinserting the controller board

1. Hold the controller board level and fit its right edge into the right groove inside the board slot. Then gently tit its left edge into the left groove.



2. Slide the controller board into the printer until it locks in place. If the controller board does not fit smoothly into the printer, do not force it. Remove it and make sure the edges tit properly into the grooves inside the slot.
3. Secure the board with the three silver screws you removed earlier.
4. Attach the interface board cover with the two screws you removed earlier.

   Note:
   Do not attach the interface cover if an optional interface is installed.



5. Reconnect any interface cables you removed
6. Insert the interface cable or cables into the U-shaped part of one cable clip. Lift the left side of the printer up slightly. Then hook the short lip of the clip into the forward slot and push the bottom of the clip under the printer until it clicks in place. Repeat this procedure with the second clip and insert it into the back slot.
7. Be sure the power is turned off, then plug the power cord into an electrical outlet.

Checking the memory

Turn on the printer. When the RAM Check message appears, make sure the printer displays the total amount of RAM that you now have installed, including the 2MB of standard memory.

If an incorrect amount appears, turn off the printer and remove the controller board. Make sure you installed each SIMM in the correct direction and that it is fully seated. If the RAM Check message is still incorrect, contact your dealer or a qualified service person for assistance.

Option Specifications

Face-up output tray

Dimensions and weight:	Without the printer:	
	Height	47 mm (1.7 inches)
	Width	251 mm (9.9 inches)
	Depth	275 mm (10.8 inches)
	Weight	0.1 kg (0.2 lb)
Paper eject capacity :	***20*** sheets (80 g/ m^2)	

Lower paper cassette unit

AC Power supply: DC 24V supplied by the printer

Paper weight:	60-90 g/ m^2 (16-24 lb)
Paper feed:	Automatic feed delivery system: Tray capacity up to 250 sheets (75 g/m^2 or 20 lb paper)
Feeding speed:	For the first sheet, 22 seconds or less. For subsequent sheets, up to 6 pages per minute.
Paper type:	Plain paper, such as copier paper, memo sheets, and letterhead
Dimensions and weight:	Without the printer: Height 79 mm (3.1 inches) Width 354 mm (13.9 inches) Depth 407 mm (16 inches) including the cassette Weight 2.8 kg (6.2 lb) including the cassette

Selecting the Printer Driver

Your printer has several resident printer emulations: HP LaserJet 4 (LJ4), EPSON ESC/ P 2, EPSON FX, and EPSON GL/2. The HP emulation is the default setting. Because it gives you the fullest range of features, you will probably not change it.

For each emulation, you need to select an appropriate printer driver. A printer driver translates the margins, fonts, and all the other selections you have entered into control codes that the printer understands.

For the HP emulation, use the ActionLaser 1600 driver, which is included with the printer, to take full advantage of your printer's features. You may also use any of the HP LaserJet drivers listed below:

ActionLaser 1600
HP LaserJet 4
HP LaserJet 4Si
HP LaserJet IIISi
HP LaserJet IIIP/IIID
HP LaserJet III

If none of the above printers is listed, select any LaserJet printer model.

For the LQ or FX emulations, select one of the following:

LQ-570	FX-870/1170
LQ-510/550	FX-850/1050
LQ-500	FX-800/1000
LQ-860	LX-100
LQ-850	LX-810/850
	LX-800

Sharing Your Printer

Up to four computers can be connected directly to the printer if you install optional interfaces and if each computer is connected to a different interface port. If you need to connect more than four computers or if you need to connect multiple computers to the same port, you can indirectly connect the computers to the printer by using a switch box.

The ActionLaser 1600 comes with a built-in parallel interface (Centronics® compatible) and a serial (RS-232C/RS-422) interface. The printer has a slot for one optional Type-B interface board.

SelecType™ Settings

The following table lists the items available on the SelecType menus.

Menu	Items
PRINTING	COPIES PAGE SIZE ORIENTATION MANUAL FEED RITech
LJ4	FONT SRC FONTNUMBER PITCH HEIGHT SYM MET FORM
JOB	PAGE PROTECT RESOLUTION TIMEOUT
EMULATION	PARALLEL SERIAL L/T* AUX*
TRAY SIZE	STD SIZE OPTSIZE*

Menu	Items
CONFIG	STD TRAY* OPTTRAY* SIZEIGNORE AUTO CONT STANDBY DENSITY AUTO SENSE TOP OFF SET LEFT OFF SET TONER TONER LIFE PAGE COUNT SelecTYPE INIT
PARALLEL	SPEED BI-D
SERIAL	SERIAL TYPE WORD LENGTH BAUD RATE PARITY STOP BIT DTR XON/XOFF DSR
TEST	STATUS SHEET LJ4 FONT SAMPLE ESC P2 FONT SAMPLE FX FONT SAMPLE FACTSHEET RITech TESTPAGE

Available only with option

Status and Error Messages

Status, error, and caution messages notify you of the printer status and alert you to problems. Some messages tell you how to correct the problem. This section contains an alphabetical list of these messages.

If the red Continue light flashes when an error is detected, correct the problem and then press the Continue button to clear the error. If the AUTO CONT option in SelecType is ON, some errors clear automatically even though the problem remains. In most instances, you should leave AUTO CONT set to OFF.

CHECK PAPER SIZE

The paper size specified from the software is different than the paper size specified by the STD SIZE and OPT SIZE settings. Check to see if the correct paper size is loaded in the standard tray or optional lower cassette. You may need to change the STD SIZE and OPT SIZE settings to match the paper size.

EPROM ERROR

The printer found illegal data in the EEPROM memory. Press the Continue button to continue. You should also check that any SelecType settings you changed from the factory defaults are still in effect.

FEED JAM

Paper is not feeding into the printer from the specified tray or cassette or has jammed on its way into the printer. Remove thejammed paper and press the Continue button.

ILLEGALCART

The printer cannot read the font cartridge inserted. To correct this error, turn off the printer. Then remove the cartridge and reinsert it.

IMAGE OPTIMUM

There is insufficient memory to print the page using the specified print quality. The printer automatically reduces the print quality so it can continue printing. If the printout is not acceptable, try simplifying the page by reducing the number of fonts or font sizes or by switching the resolution to 300 dpi. You may also need to increase the amount ofprinter memory.

INSERT CART

You may have removed an optional font cartridge while the Form Feed light was on (indicating print data was received but not yet printed). To correct the error, reinsert the font cartridge and press the Continue button.

MANUAL- @age size)

Manual feed is specified for the current job. Make sure the specified paper size is loaded in the standard paper tray and press the On Line button.

MEM OVERFLOW

The printer has insufficient memory available for the current task. To correct the error, press the Continue button. If the message remains, reset the printer. You can also clear this message by turning the printer off and back on again.

If you continually receive this message when printing a particular page, try simplifying the page by reducing the number and size of fonts or by using 300-dpi resolution. You can also add more memory to the printer.

PAPER JAM

Paper is jammed in the paper path. Open the printer cover and clear the jammed paper.

PAPER OUT (Paper source) (paper size)

There is no paper in the specified tray. Load paper of the specified size and press the On Line button.

PAPER SET (paper source) (paper size)

The paper loaded in the specified tray does not match the required size. Replace the paper in the tray with paper of the specified size and press the Continue button.

PC INSTALL

The optional lower paper cassette is not installed but it is specified as the paper source. Turn the printer off, wait ten seconds, and turn the printer back on.

Check the Printers dialog box in your software to be sure that the standard tray is selected.

PRINT OVERRUN

The required time to process the print data exceeds the print engine speed because the current page is too complex. Press Continue to resume printing. If this message appears again, change the PAGE PROTECT setting in the JOB menu.

PRINTER OPEN

The printer cover is open. Close the printer cover to continue printing.

RAM ERROR 1 or 2

The specified SIMM cannot be used. Remove SIMM 1 (installed in the CN8 slot) or SIMM 2 (installed in the CN9 slot) as appropriate. Reinstall the SIMM.

READY

The printer is ready to receive data or to print.

REMOVE CART

You may have inserted an optional font cartridge while the Form Feed light was on. To correct the error, remove the cartridge, reinsert it into the slot, and press the Continue button.

RESET

The printer's current interface port has been reset and the buffer cleared. However, other interface ports are still active and retain their settings or data.

RESET ALL

All printer settings have been reset to the specified settings.

RESET TO SAVE

You have changed a SelecType setting but the new setting has not yet been enabled. To enable the new setting, hold down the Alt button and press Reset.

SELF TEST

The printer is performing an internal check cycle. Please wait a few seconds until the check is finished.

SERVICE REQ.XXXX

A controller error or a print engine error has been detected. Write down the error number listed on the display and turn off the printer. Wait at least five seconds and then turn it back on. If the error message still appears, turn off the printer, unplug the power cord, and contact a qualified service person.

STANDBY

The printer is currently in a low-power state. (When the printer is not used for 15 minutes, it enters standby mode.) Press any button or send data to warm up the printer. Warm-up takes approximately 30 seconds.

TONER LOW

The printer is almost out of toner. When you see this message, you must replace the imaging cartridge soon.

TONER OUT

You must replace the imaging cartridge.

To print one additional page, press the Continue button.

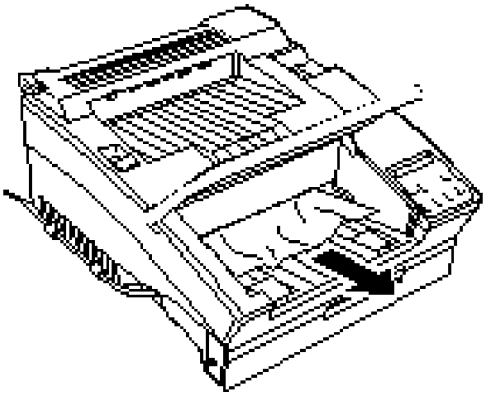
WARMING UP

The printer is warming up. Warm-up takes approximately ***30*** seconds.

Feed Jam

When the printer stops printing and the FEED JAM message appears, follow these steps:

1. Open the paper cover. Carefully remove all the paper in the paper tray along with any sheets that have fed part way into the printer.



2. If the paper tears when you remove it, make sure you remove any pieces remaining in the printer. To do this, gently open the printer cover.

◆ ***Warning:***
Opening the printer cover exposes the fuser, which is marked by a CAUTION HOT SURFACE label. Be careful not to touch the fuser.

3. Remove the imaging cartridge. Next remove any paper from the paper feed path and reinsert the imaging cartridge.
4. Close the printer cover.
5. Tap the edges of the paper stack on a flat surface and carefully reload it into the paper tray. (Do not reload curled or wrinkled sheets.) Close the paper cover.

The jammed page is automatically reprinted. If you did not open the printer cover to clear the feed jam, press the Continue button.

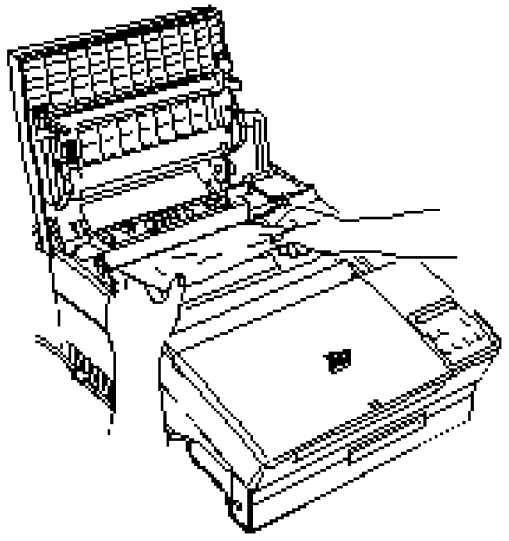
Paper Jam

When the printer stops printing and the PAPER JAM message appears, follow these steps:

1. Gently open the printer cover and remove the imaging cartridge.

◆ ***Warning:***
Opening theprinter exposes the fuser, which is marked by a CAUTION HOT SURFACE label. Be careful not to touch the fuser.

2. Gently pull out the paper. The direction you should pull depends on where the paper is jammed. If it tears, make sure you remove any pieces remaining in the printer.



Note:
Because the toner on the paper inside theprinter may not have been fixed on the page, toner may come off on your hands when you remove thepaper. If you spill toner on your clothing, rinse it off with cold water. Using hot water may leave a permanent stain

3. Reinstall the imaging cartridge.
4. Close the printer cover.

After a paper jam, the jammed page is automatically reprinted

Data Dump Mode

The data dump mode is a special feature that makes it easy for experienced users to find the cause of communication problems between the printer and computer. The data dump mode produces an exact printout of the codes reaching the printer.

1. Make sure that the printer is loaded with paper and turned off.
2. Hold down the On Line button while you turn on the printer. Make sure you hold the button down until the DUMP MODE appears on the display.
3. Run any program that causes the printer to print (either an application program or a program written in any programming language). Your printer prints out all of the codes sent to it in hexadecimal format.
4. To stop printing and turn off data dump mode, press the On Line button to go off line. Then turn off the printer after printing stops.

Information Reference List

Engineering Change Notices

None.

Product Support Bulletins

None.

Technical Information Bulletins

None.

Related Documentation

TM-AL1600	ActionLaser 1600 Service Manual
PL-AL1600	ActionLaser 1600 Parts Price List
4002596	ActionLaser 1600 Reference Guide
4002595	ActionLaser 1600 Read This First Guide